

Electromyographic and kinematic parameters moving patients with overhead and floor lifts

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study aims

- To compare carer sEMG activities and trunk kinematics during overhead and floor lifter use
- To verify if patient handling may be safely performed with lifters by only one carer

No studies, actually, evaluate patient handling during the entire task (from the corset insertion to its removal) when it's performed wholly by only one carer

methods



surface electromyograph

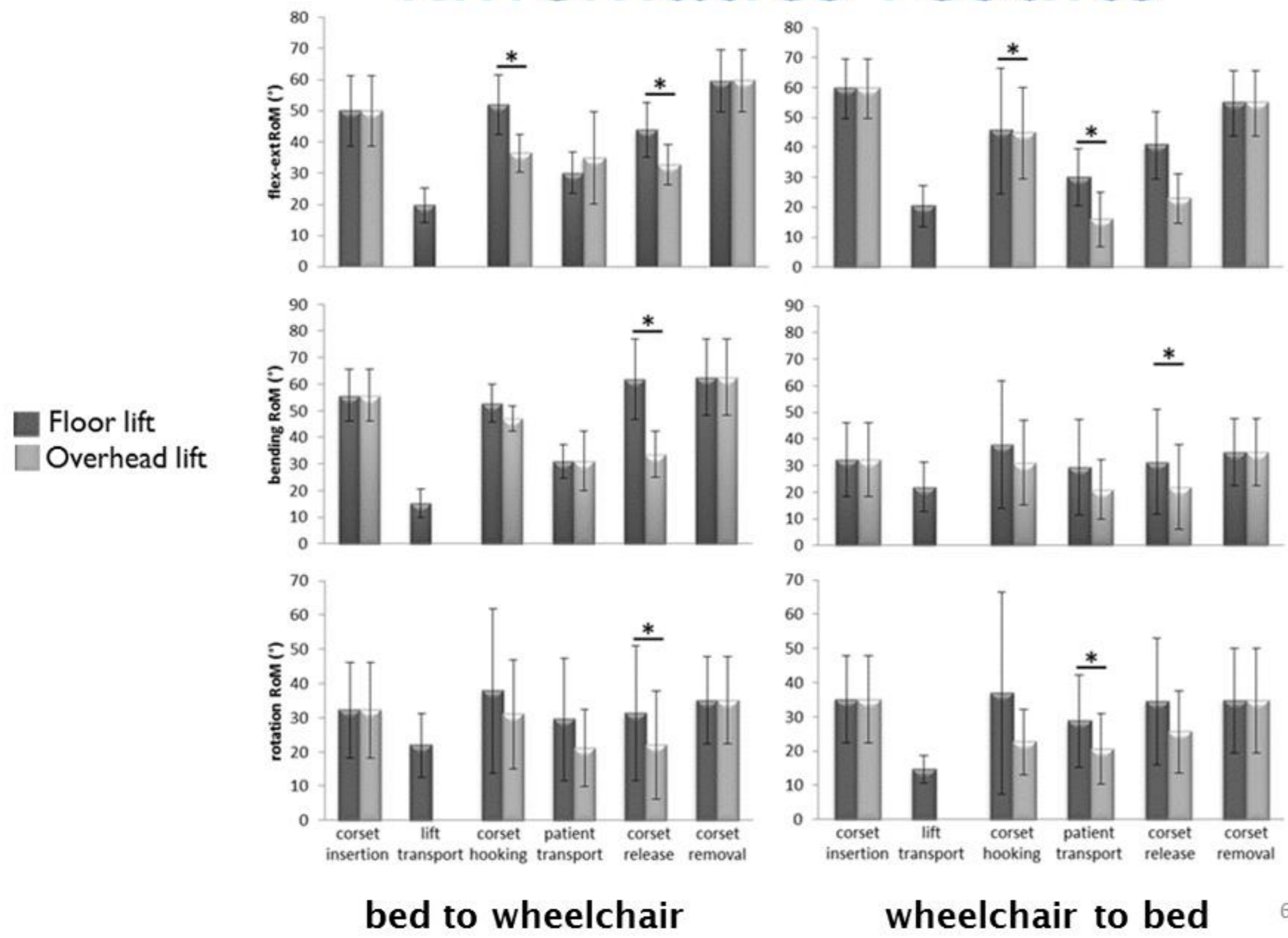


infrared cameras
optoelectronic system

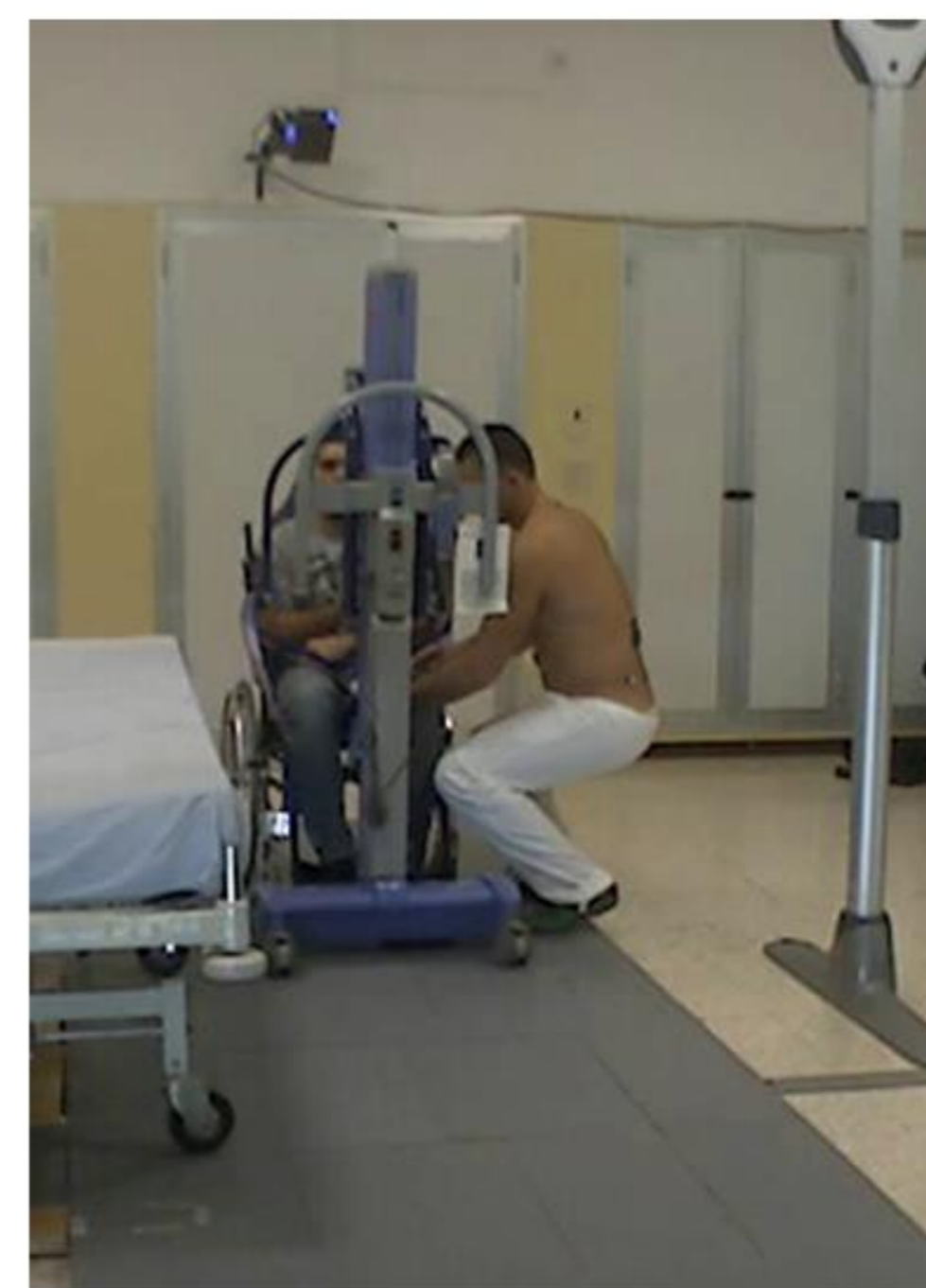
corset hooking



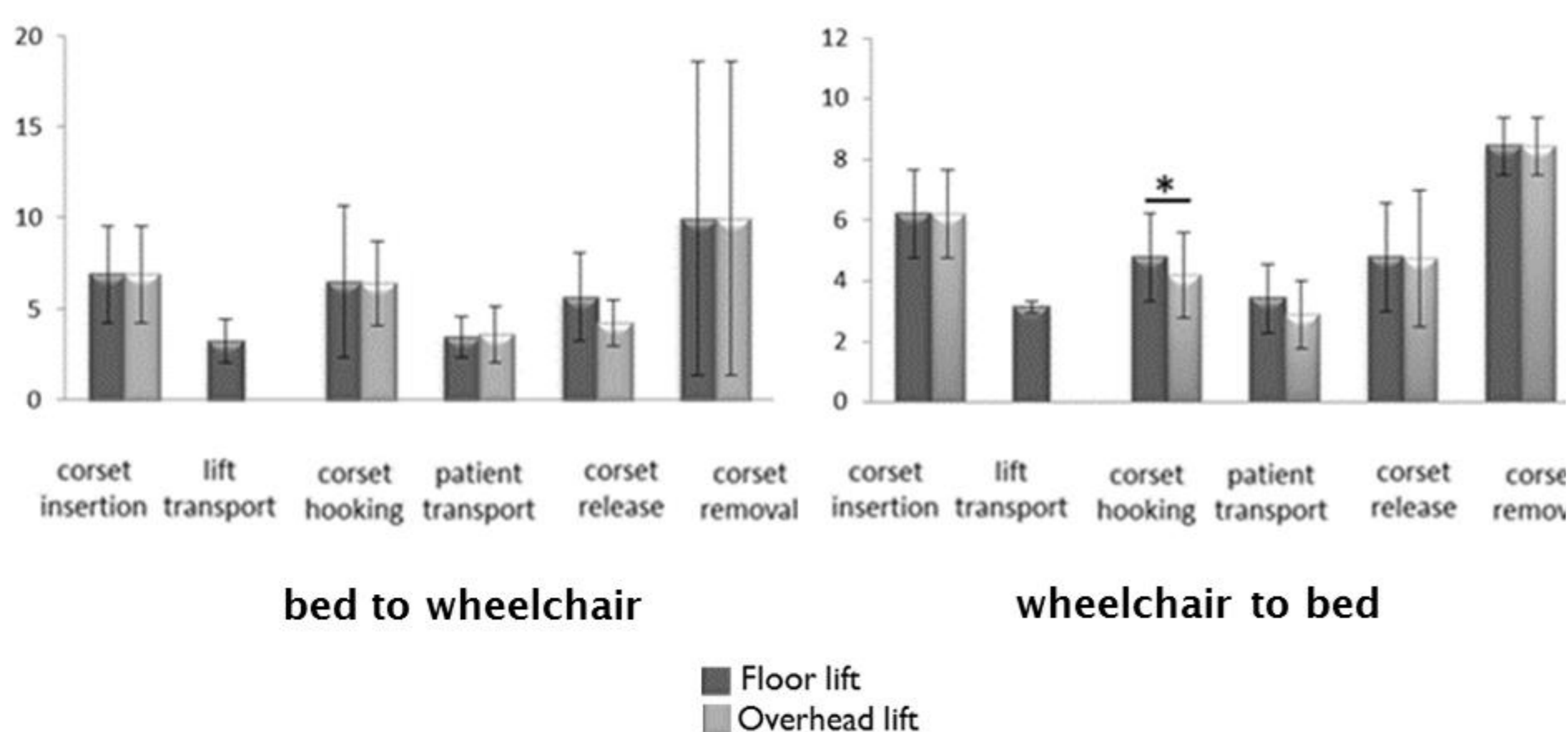
kinematics results



corset release



time-varying multi-muscle co-activation function (TMCf)



conclusions

- Corset maneuvers and patient transport with overhead lifter showed lower trunk RoMs due to a different operator posture
- A reduced TMCf was observed with overhead lifter during corset maneuvers
- Results confirm that mechanical aids maintain biomechanical effort at low levels and can be used by operators having functional limitations